

FIG. 1

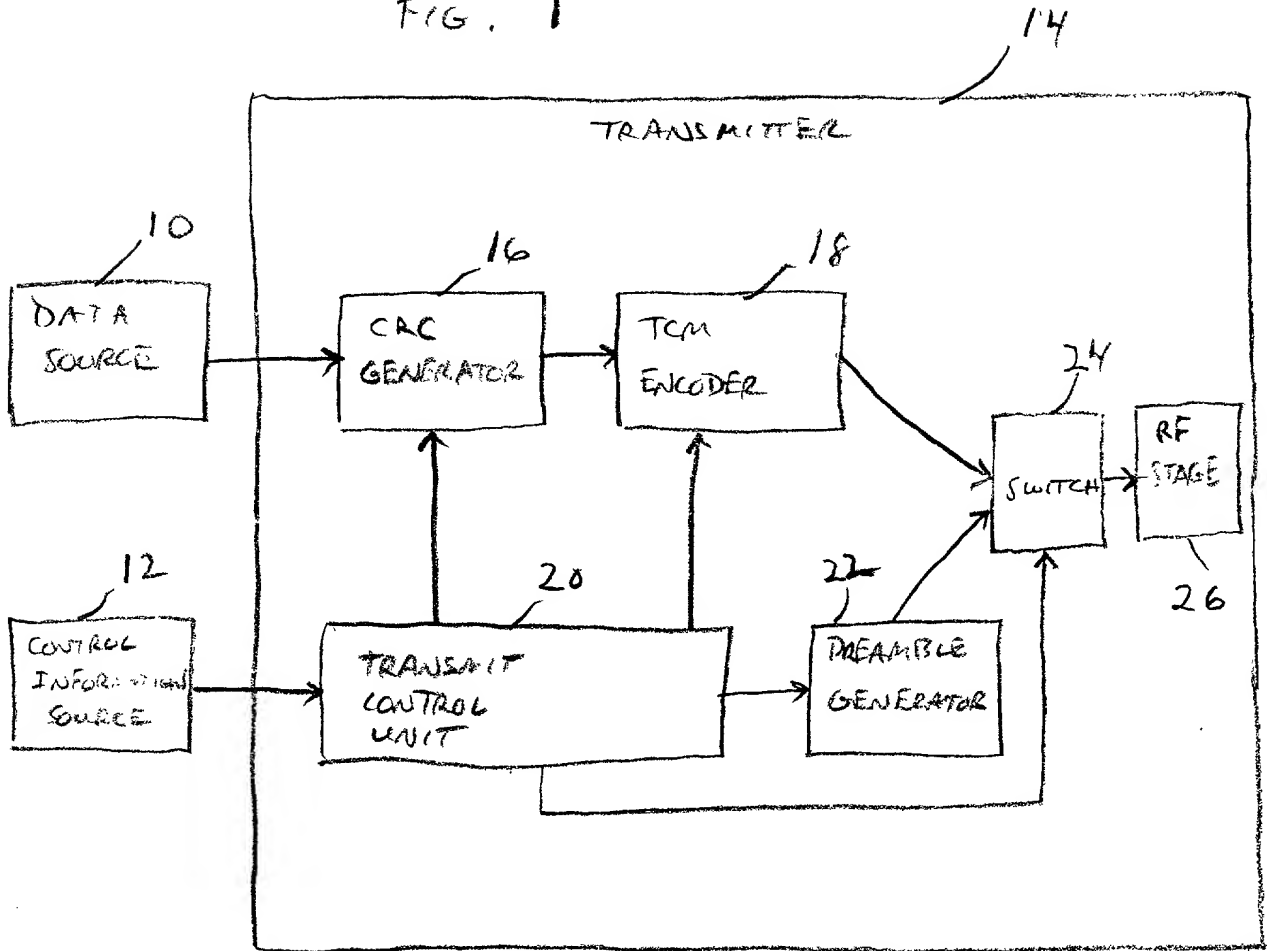


FIG. 2

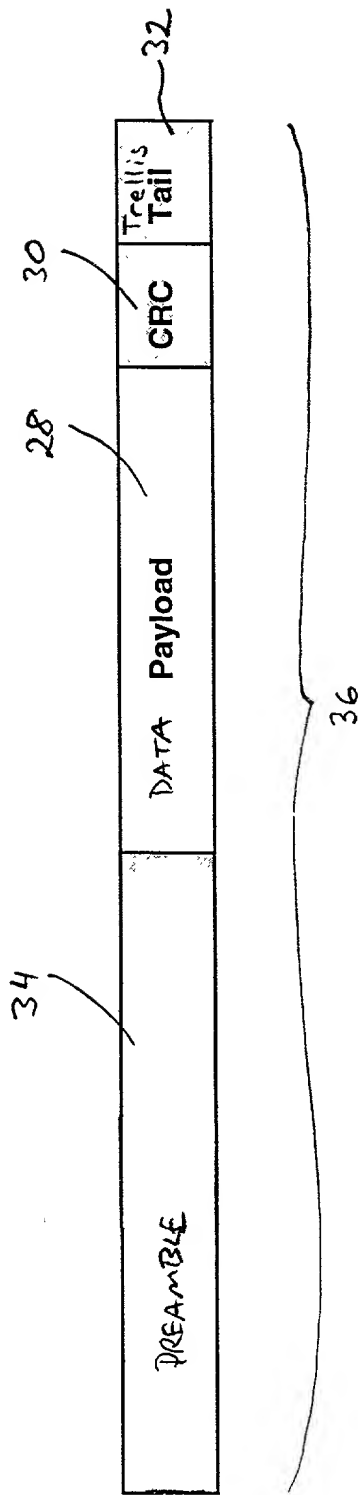


FIG. 3

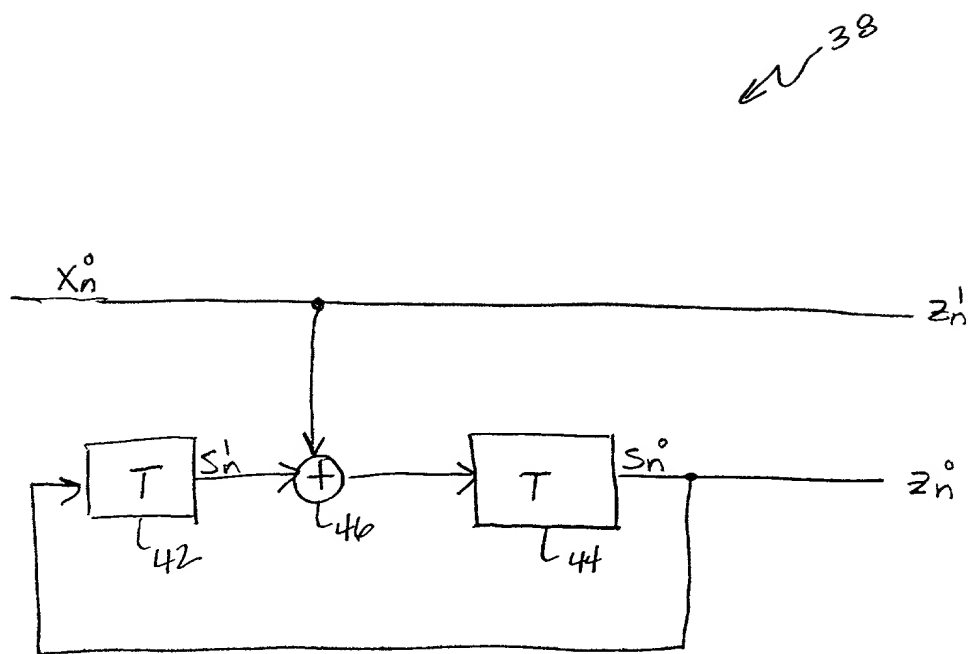


FIG. 4

50

| Current<br>State Bits<br>$s_n^1 \quad s_n^0$ | Input Signal<br>Bits<br>$x_n^0$ 52 |  | Output Signal<br>Bits<br>$z_n^1 \quad z_n^0$ 54 |  | Next State<br>Bits<br>$s_{n+1}^1 \quad s_{n+1}^0$ 56 |  |
|--|------------------------------------|--|---|--|--|--|
|  |                                    |  |   |  |  |  |
| 0 0  | 0                                  |  | 0 0   |  | 0 0  |  |
|  | 1                                  |  | 1 0   |  | 0 1  |  |
| 0 1  | 0                                  |  | 0 1   |  | 1 0  |  |
|  | 1                                  |  | 1 1   |  | 1 1  |  |
| 1 0  | 0                                  |  | 0 0   |  | 0 1  |  |
|  | 1                                  |  | 1 0   |  | 0 0  |  |
| 1 1  | 0                                  |  | 0 1   |  | 1 1  |  |
|  | 1                                  |  | 1 1   |  | 1 0  |  |

FIG. 5

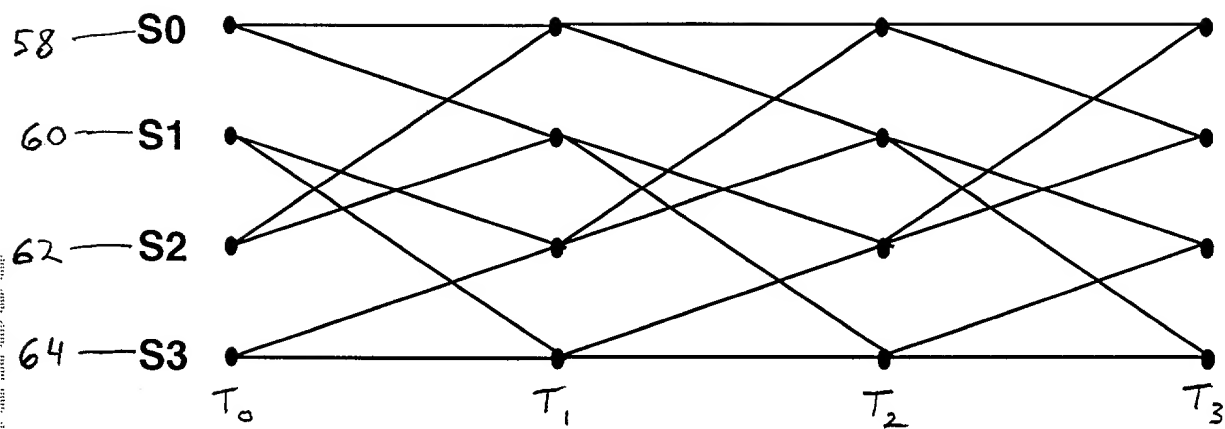


FIG. 9

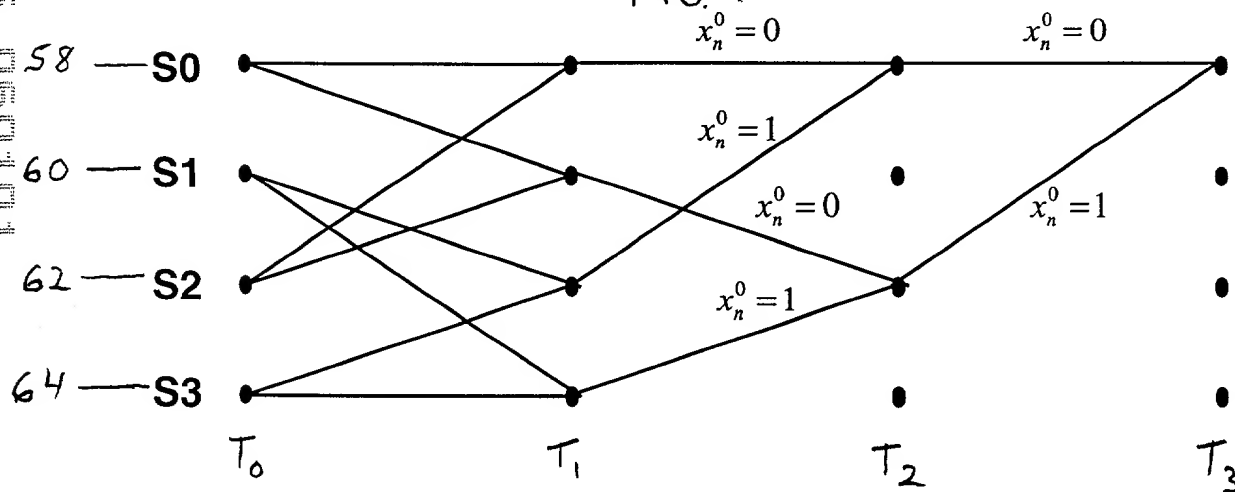


FIG. 6

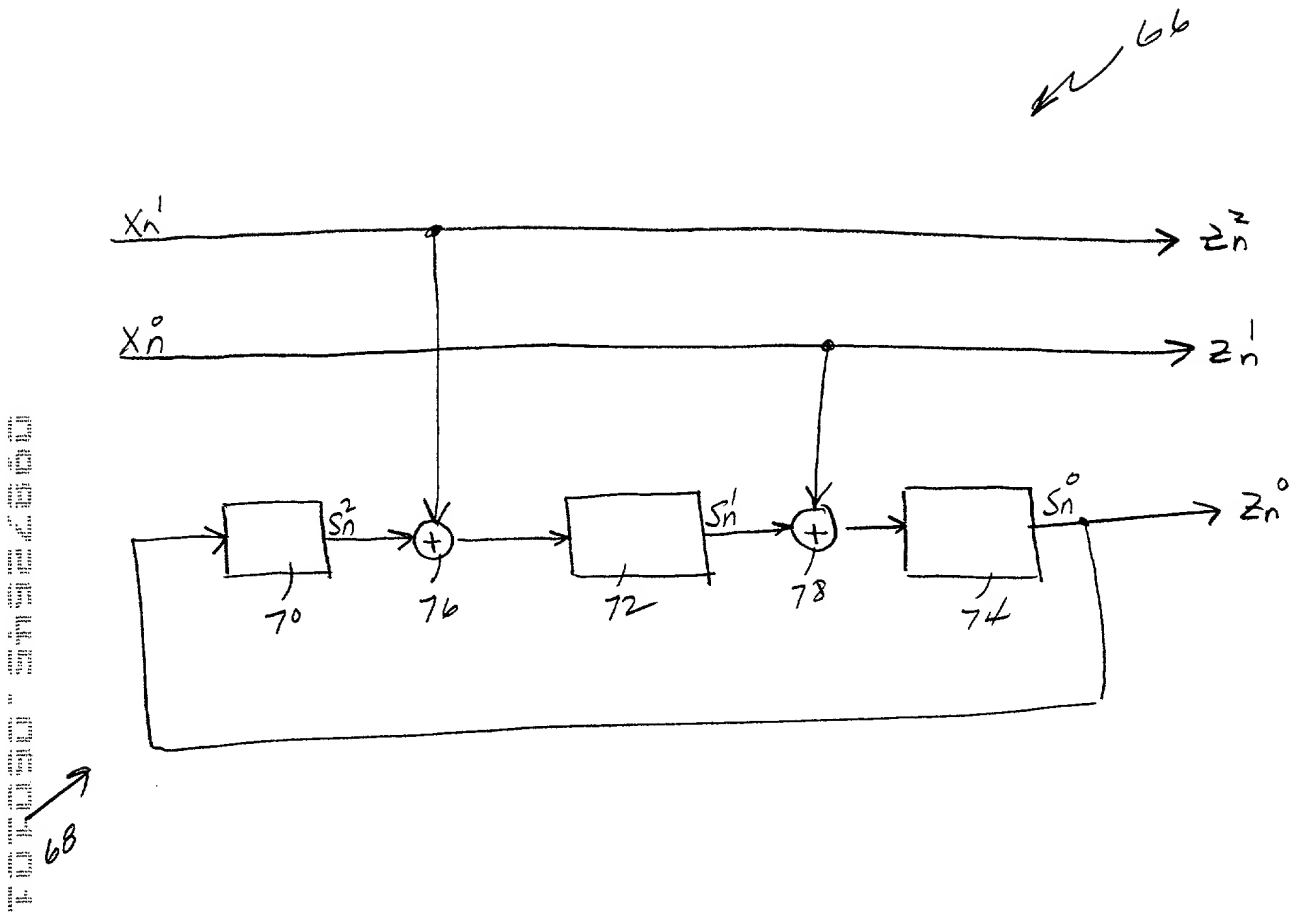


FIG. 7

| Current<br>State Bits<br>$s_n^2 \ s_n^1 \ s_n^0$ | Input Signal<br>Bits<br>$x_n^1 \ x_n^0$ |  | Output Signal<br>Bits<br>$z_n^2 \ z_n^1 \ z_n^0$ |  |  | Next State<br>Bits<br>$s_{n+1}^2 \ s_{n+1}^1 \ s_{n+1}^0$ |  |  |
|--|---|--|--|--|--|---|--|--|
|  |   |  |  |  |  |   |  |  |
| 0 0 0  | 0 0                                     |  | 0 0 0  |  |  | 0 0 0   |  |  |
|  | 0 1                                     |  | 0 1 0  |  |  | 0 0 1   |  |  |
|  | 1 0                                     |  | 1 0 0  |  |  | 0 1 0   |  |  |
|  | 1 1                                     |  | 1 1 0  |  |  | 0 1 1   |  |  |
| 0 0 1  | 0 0                                     |  | 0 0 1  |  |  | 1 0 0   |  |  |
|  | 0 1                                     |  | 0 1 1  |  |  | 1 0 1   |  |  |
|  | 1 0                                     |  | 1 0 1  |  |  | 1 1 0   |  |  |
|  | 1 1                                     |  | 1 1 1  |  |  | 1 1 1   |  |  |
| 0 1 0  | 0 0                                     |  | 0 0 0  |  |  | 0 0 1   |  |  |
|  | 0 1                                     |  | 0 1 0  |  |  | 0 0 0   |  |  |
|  | 1 0                                     |  | 1 0 0  |  |  | 0 1 1   |  |  |
|  | 1 1                                     |  | 1 1 0  |  |  | 0 1 0   |  |  |
| 0 1 1  | 0 0                                     |  | 0 0 1  |  |  | 1 0 1   |  |  |
|  | 0 1                                     |  | 0 1 1  |  |  | 1 0 0   |  |  |
|  | 1 0                                     |  | 1 0 1  |  |  | 1 1 1   |  |  |
|  | 1 1                                     |  | 1 1 1  |  |  | 1 1 0   |  |  |
| 1 0 0  | 0 0                                     |  | 0 0 0  |  |  | 0 1 0   |  |  |
|  | 0 1                                     |  | 0 1 0  |  |  | 0 1 1   |  |  |
|  | 1 0                                     |  | 1 0 0  |  |  | 0 0 0   |  |  |
|  | 1 1                                     |  | 1 1 0  |  |  | 0 0 1   |  |  |
| 1 0 1  | 0 0                                     |  | 0 0 1  |  |  | 1 1 0   |  |  |
|  | 0 1                                     |  | 0 1 1  |  |  | 1 1 1   |  |  |
|  | 1 0                                     |  | 1 0 1  |  |  | 1 0 0   |  |  |
|  | 1 1                                     |  | 1 1 1  |  |  | 1 0 1   |  |  |
| 1 1 0  | 0 0                                     |  | 0 0 0  |  |  | 0 1 1   |  |  |
|  | 0 1                                     |  | 0 1 0  |  |  | 0 1 0   |  |  |
|  | 1 0                                     |  | 1 0 0  |  |  | 0 0 1   |  |  |
|  | 1 1                                     |  | 1 1 0  |  |  | 0 0 0   |  |  |
| 1 1 1  | 0 0                                     |  | 0 0 1  |  |  | 1 1 1   |  |  |
|  | 0 1                                     |  | 0 1 1  |  |  | 1 1 0   |  |  |
|  | 1 0                                     |  | 1 0 1  |  |  | 1 0 1   |  |  |
|  | 1 1                                     |  | 1 1 1  |  |  | 1 0 0   |  |  |

FIG. 8

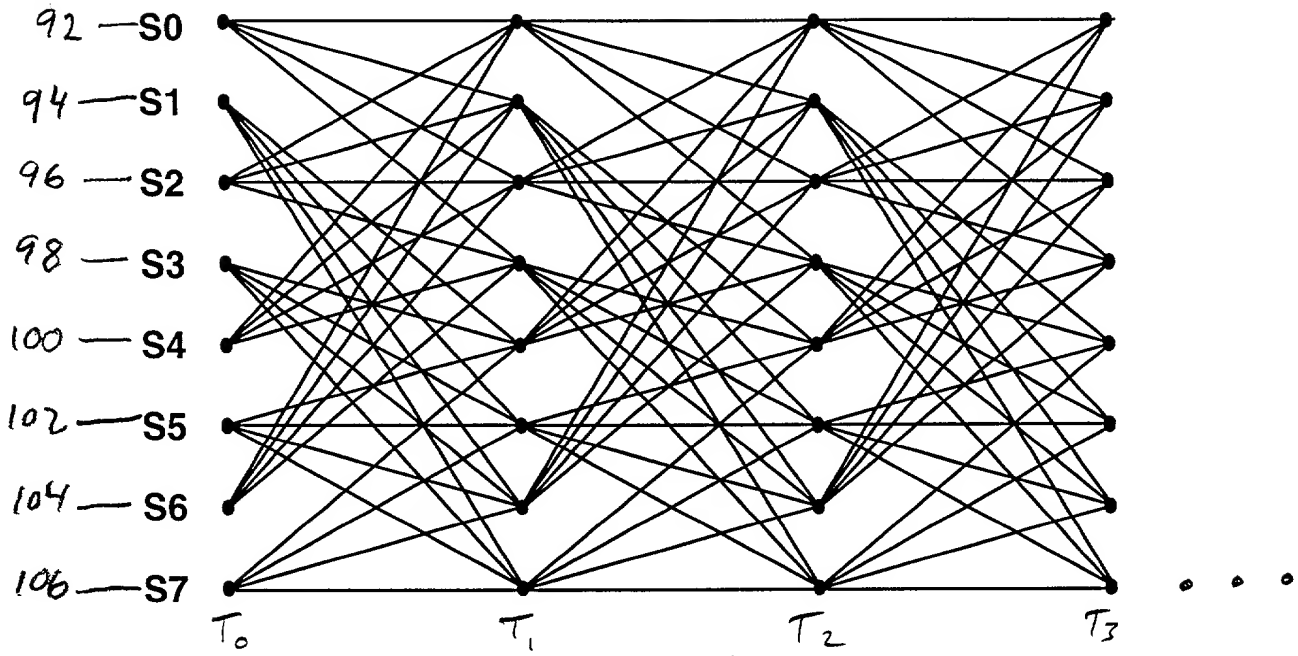


FIG. 14

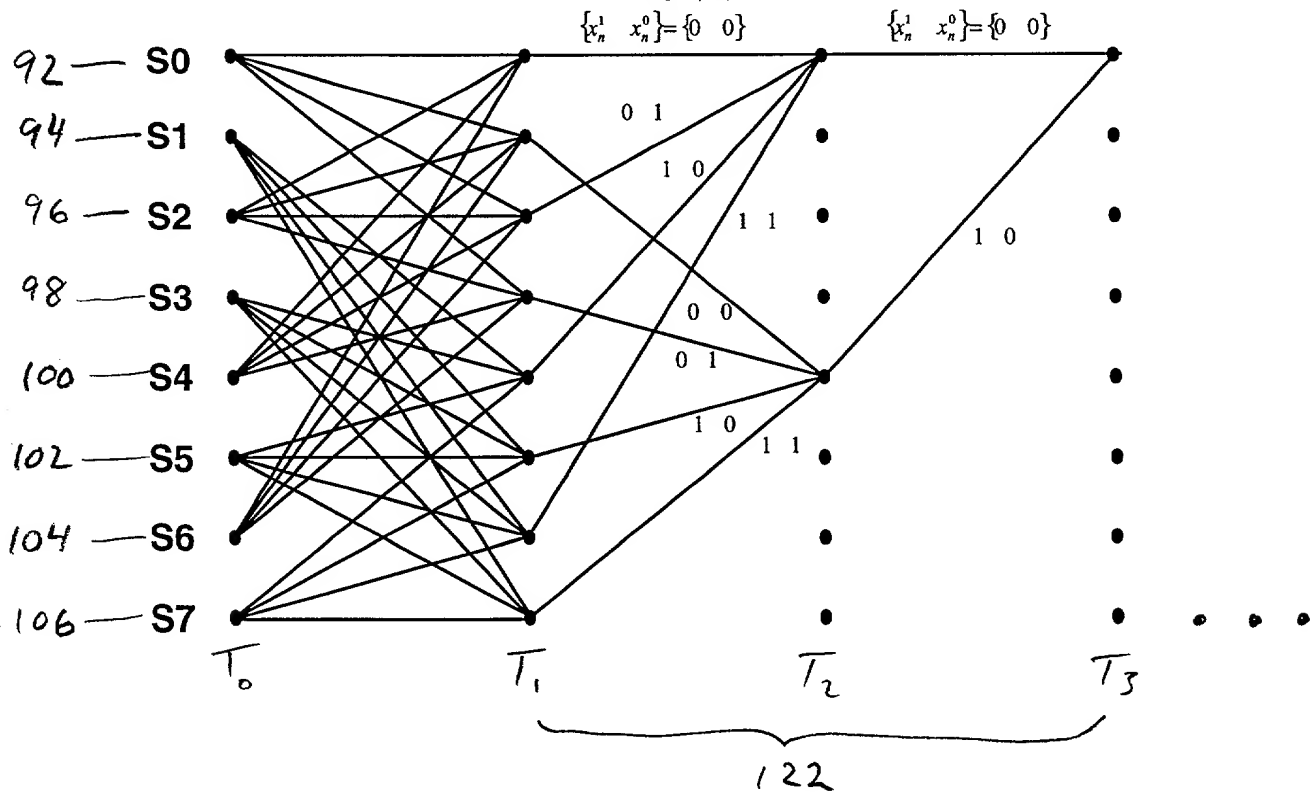




FIG. 10

| 110 | Current State<br>Of 4-State<br>FSM At $T_1$ | 1st Input bit<br>( $x_n^0$ ) | 2 <sup>nd</sup> Input bit<br>( $x_n^0$ ) | 114 |
|-----|---|------------------------------|--|-----|
| 58  | S0  | 0                            | 0  |     |
| 60  | S1  | 0                            | 1  |     |
| 62  | S2  | 1                            | 0  |     |
| 64  | S3  | 1                            | 1  |     |

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FIG. 11

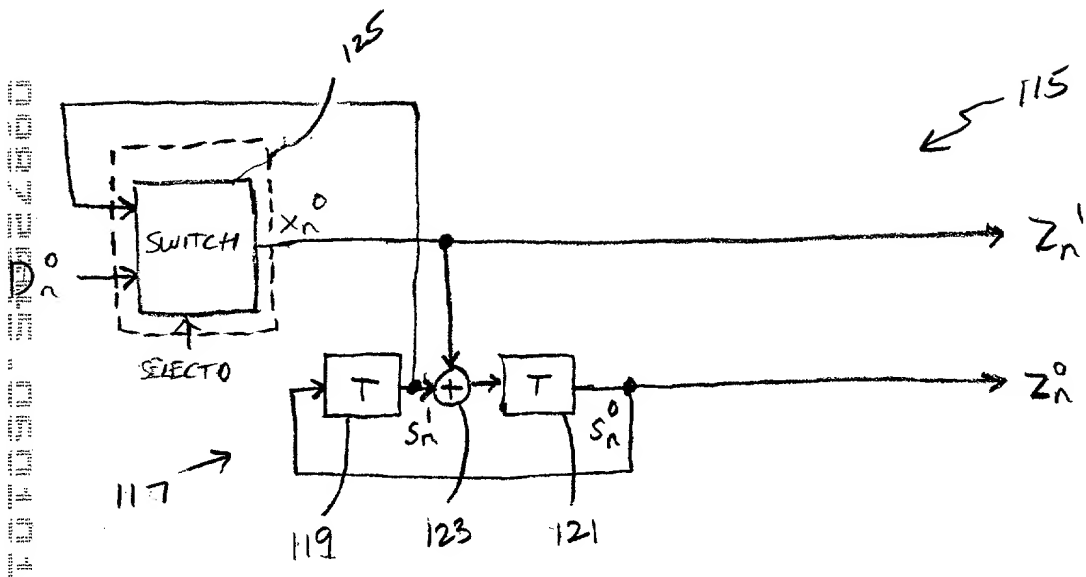


FIG. 12

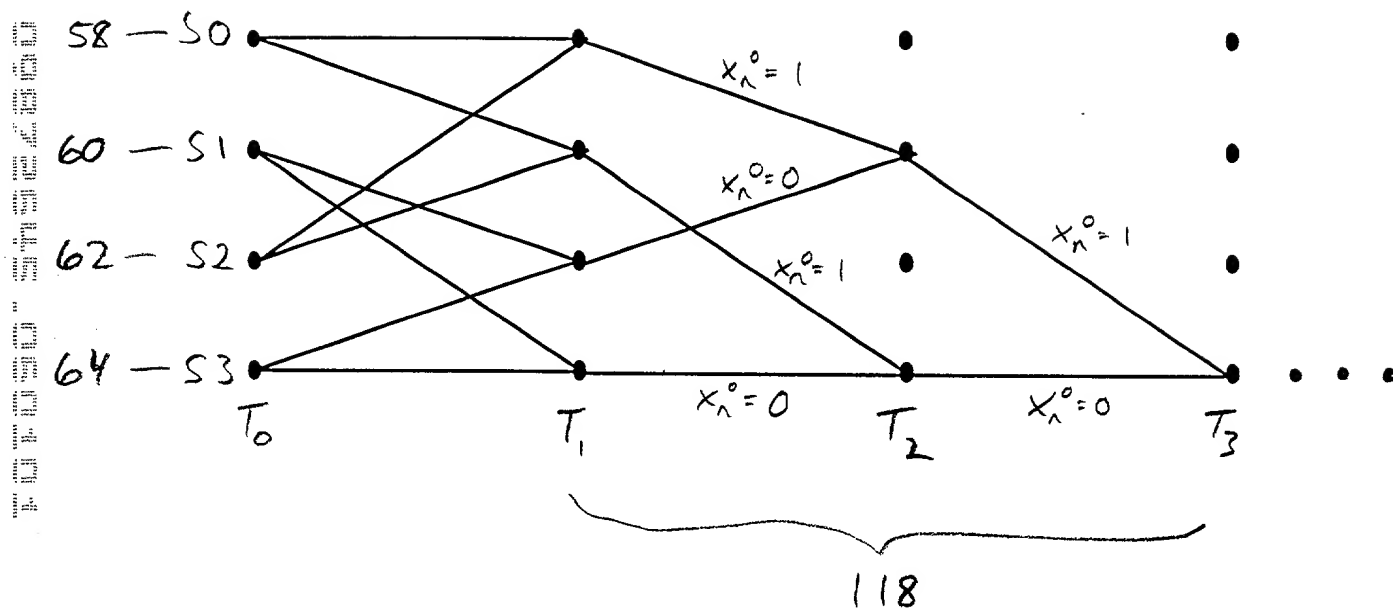


FIG. 13

| 110 | Current State<br>Of 4-state<br>FSM At $T_1$ | 1st Input bit<br>( $x_n^0$ ) | 2 <sup>nd</sup> Input bit<br>( $x_n^0$ ) | 114 |
|-----|---|------------------------------|--|-----|
| 58  | S0  | 1                            | 1  |     |
| 60  | S1  | 1                            | 0  |     |
| 62  | S2  | 0                            | 1  |     |
| 64  | S3  | 0                            | 0  |     |

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FIG. 15

| 124 | Current State<br>Of 8-State<br>FSM At $T_1$ | 1st Input<br>Bits<br>( $x_n^1$ $x_n^0$ ) | 2 <sup>nd</sup> Input<br>Bits<br>( $x_n^1$ $x_n^0$ ) | 128 |
|-----|---|--|--|-----|
| 92  | S0  | 00                                       | 00   |     |
| 94  | S1  | 00                                       | 10   |     |
| 96  | S2  | 01                                       | 00   |     |
| 98  | S3  | 01                                       | 10   |     |
| 100 | S4  | 10                                       | 00   |     |
| 102 | S5  | 10                                       | 10   |     |
| 104 | S6  | 11                                       | 00   |     |
| 106 | S7  | 11                                       | 10   |     |

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FIG. 16

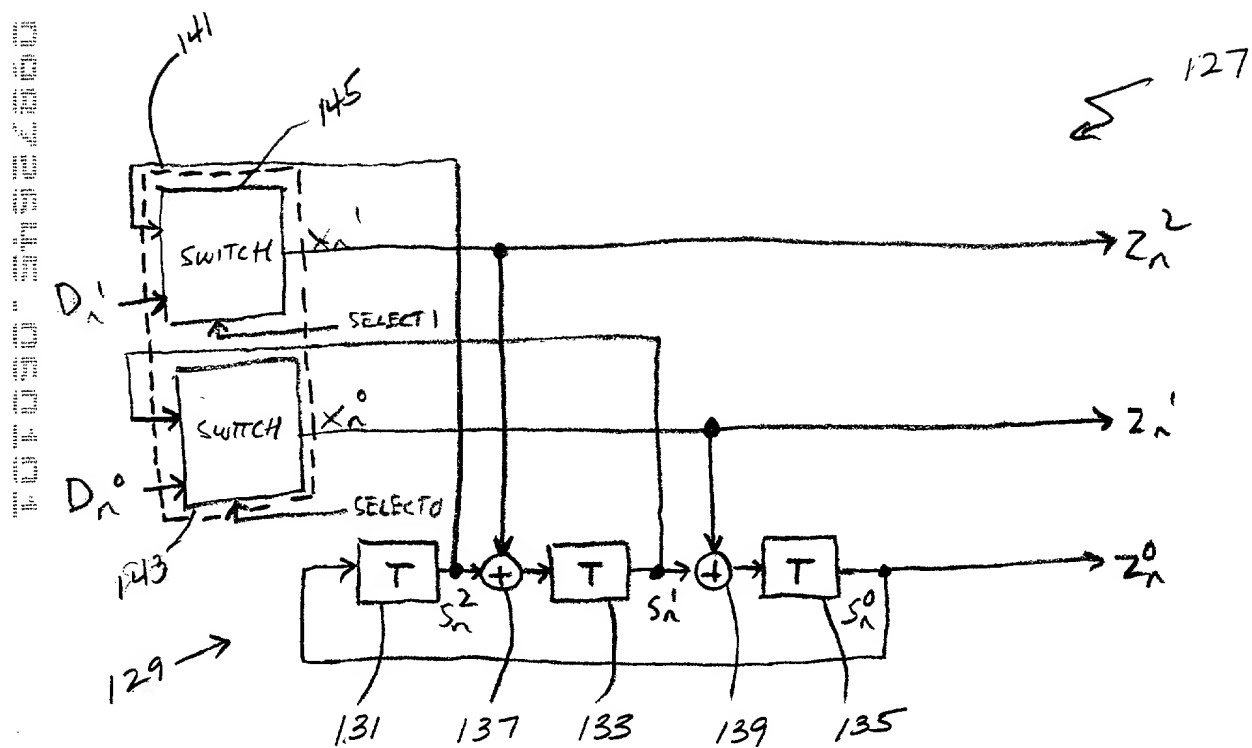


FIG. 17

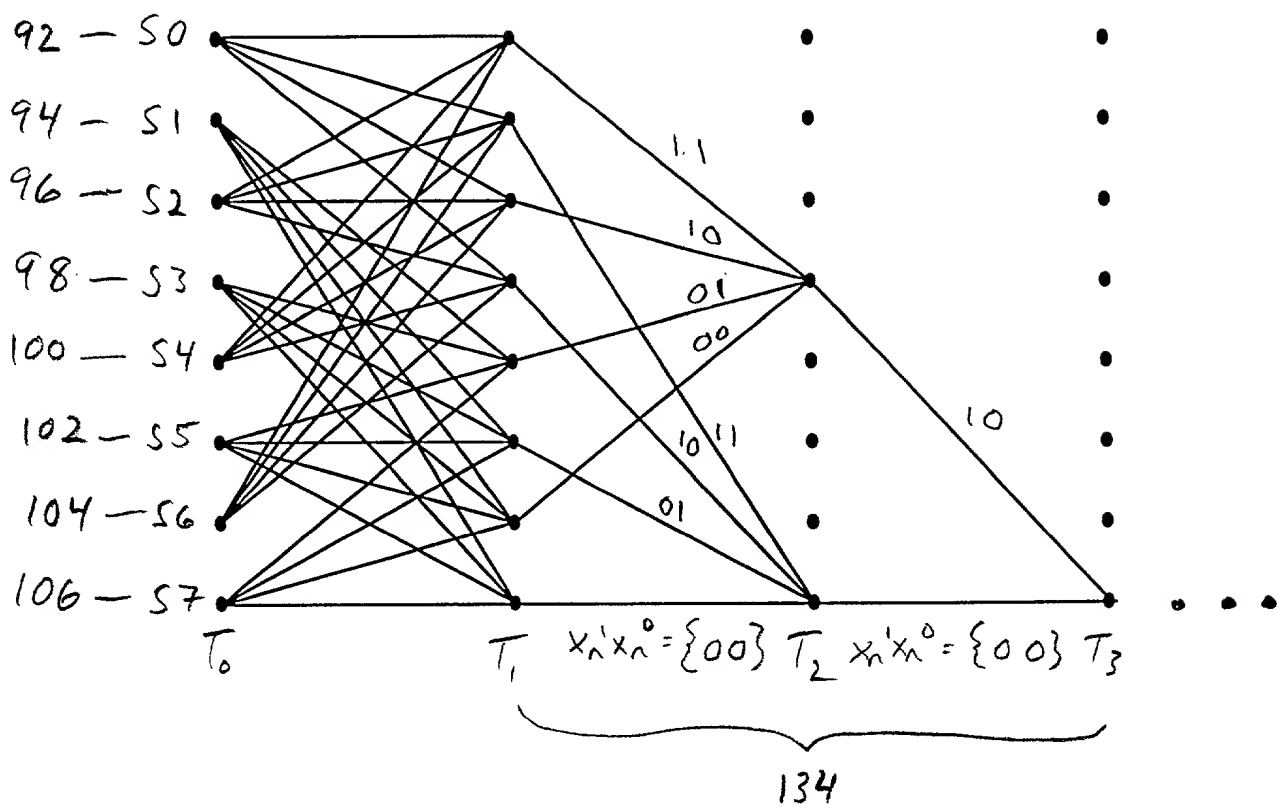


FIG. 18

| Current State<br>of 8-State<br>FSM At $T_i$ | 1st Input<br>Bits<br>( $x_n^1$ $x_n^0$ ) | 2nd Input<br>Bits<br>( $x_n^1$ $x_n^0$ ) |
|---|--|--|
| 92 — S0                                     | 1 1                                      | 1 0                                      |
| 94 — S1                                     | 1 1                                      | 0 0                                      |
| 96 — S2                                     | 1 0                                      | 1 0                                      |
| 98 — S3                                     | 1 0                                      | 0 0                                      |
| 100 — S4                                    | 0 1                                      | 1 0                                      |
| 102 — S5                                    | 0 1                                      | 0 0                                      |
| 104 — S6                                    | 0 0                                      | 1 0                                      |
| 106 — S7                                    | 0 0                                      | 0 0                                      |

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